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DRINKING GAMES AMONG MODERATE AND HEAVY DRINKERS:
INFLUENCE OF DEMOGRAPHIC VARIABLES

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Paper presented: American School Health Association,
Pittsburgh, PA, October 1993

Digitalized for IUScholar Works, February 2014. Retrieved from IUScholarWorks:
<http://hdl.handle.net/2022/17299>

ABSTRACT

Purpose: the purpose of the study was to determine possible association of playing drinking games on alcohol consumption and problems related to drinking. Another purpose was to examine the effect drinking game playing of light-moderate and of heavy “binge” drinking students by demographic variables. *Methods:* a national sample of 3,830 students from 62 American colleges and universities during the 1990-1991 academic year, using the *Student Alcohol Questionnaire*, were surveyed. *Results:* Among Light-Moderate drinking game players for all but two of the problems related to drinking, a significantly ($p < .05$) higher percentage of game players compared to nongame players exhibited drinking related problems. They also consumed significantly ($p < .001$) more drinks per week (7.8) compared to the non-game players (3.4). On the other hand, among Heavy or “binge drinkers,” there was little difference between game and non-game players exhibiting problems related to drinking. A significantly ($p < .001$) higher proportion of students who played drinking games possessed the following characteristics: whites, under 21 year of age, lower school year status, mainstream Protestants, and students enrolled in large universities, in rural areas, in the north central region of the United States. Among heavy drinkers, other than for white and underage students, no differences were found nor was there a difference in the amount of alcohol consumed between game and non-game players (30 drinks per week). *Conclusions:* It was concluded that drinking game playing appeared to increase problems related to alcohol primarily among more moderate drinkers in this sample of students. Those who were heavy drinkers were exhibiting more problems regardless of

their game-playing status. Education about the effect of game playing among students who are moderate drinkers and its increased risks of problems related to drinking should be addressed.

INTRODUCTION

Drinking games

Throughout history, drinking games have been part of youthful alcohol consumption. Ancient Greek youth played games at symposia as did Roman youth at banquets. Games played by these youth in which drinking was involved included poetry recitation, toasting, and riddles. The person who could not finish the riddle or story sometimes was made to drink another cup. Drinking games were also played among university students in the Middle Ages and have been a traditional part of university drinking for centuries (Douglas, 1987). Drinking games today include such items as "quarters" in which the person who successfully tosses a quarter into a beer mug designates someone to drink the beer. "Chug-a-lug" is a contest to see who can drink the most beer in a certain amount of time.

Although drinking games have long been part of collegiate life, few studies have investigated them. A survey by Douglas, (1987) of 311 students at one eastern university reported that 81% of students had participated in a drinking game at some point in their lives. A higher incidence of drinking games among white students was also noted.

Crawford and Nellis (1991) conducted a telephone survey of 303 students at a Midwestern university. They found almost 40% of both male and female students had played a drinking game during the previous month. However, among freshmen, about 70% of the men and 75% of the women had played a drinking game during the same period. This suggests that drinking games may have been more popular among freshmen than older students.

The results of a participant observation study by Newman, Crawford, and Nellis (1991) suggest that drinking games are a popular social activity that provides a focus for social interaction. While both male and female game players consumed more alcohol than did nongame players, this was particularly pronounced among women. The investigators also interviewed students and found that 73% of freshmen and 38% of other students had played a drinking game in the previous four weeks. Of these students 92% stated they had played drinking games to the point of intoxication. The authors state it is not clear whether game playing leads to heavier drinking or whether heavier drinkers are more likely to play games.

Drinking games appear to contribute to high-risk behavior including heavy drinking and problems associated with alcohol intoxication. Newman, *et al.* (1991) suggest that drinking games trivialize the dangers of heavy rapid consumption, glorify those who can "hold their

liquor," reinforce peer pressures to drink heavily, generally encourage favorable attitudes toward the immoderate use of alcohol, and may lead to a diversity of negative consequences.

Although students drink for a variety of reasons (McCarty & Kaye, 1984), some reports have suggested heavy drinkers are more likely to exhibit problems related to alcohol (Williams, Kirkman-Liff, & Szivek, 1990; Wechsler & Isaac, 1992).

Demographic factors

Numerous studies over the years have found that demographic variables reflect drinking patterns and problems related to alcohol among collegians. Therefore, this research will not be belabored in this paper. Groups that tend to consume alcohol more frequently and in higher quantities and exhibit more problems in relationship to heavy drinking include males, whites, younger age, low grade point averages, freshmen among others (Engs, 1977; Engs and Hanson, 1985, 1990; Banks and Smith, 1980; Reiskin and Wechsler, 1981; Blane and Hewitt's 1977; Kaplan 1979, Kopplin, et al., 1977; Kuder and Madson, 1976).

Few studies of drinking games based on a national sample of college students and their effects upon moderate or heavy drinking have been reported. Neither have demographic variables and their relationship to drinking patterns and drinking game playing been extensively studied. Because of the range of potential dangers drinking games may present, the main goal of this study was to measure the effect of playing drinking games among both moderate and heavy drinkers on problems related to drinking. In addition a goal was to determine possible differences among various demographic groups in regards to drinking patterns and drinking game playing. .

METHODS

Sample

Colleges were selected as part of a quota sample which represented all four-year institutions of higher education in the USA in terms of financial control, number of students enrolled, size of the community location, and demographic enrollment characteristics (Snyder, 1987). At each institution sociology or health/physical education faculty who taught survey-type classes which had a high probability of containing students from every academic major and class level were asked to distribute up to 75 questionnaires in each such class. The response rate exceeded 98%, and the resulting sample contained 4,845 students from 62 colleges and universities. Because of its large size the sample had high power for detecting significant differences.

Of the total sample, 3,830 students were drinkers (consuming alcohol at least once during the previous 12 months). Among drinkers, 41% were male and 59% female; 91% white and 9% nonwhite; and 60% under and 40% over the age of 21 years.

Instrument

The *Student Alcohol Questionnaire*, was employed (Engs, 1975). Used by numerous researchers over the past 15 years, it includes demographic items, 6 questions regarding the consumption of various alcoholic beverages, and 17 items concerning behavior consequences of drinking. The instrument has an internal reliability coefficient of .79. Instructions to the respondents explained the voluntary nature of participation as approved by the authors' institutional review boards.

Research Design and Calculations

The research design for this descriptive study was cross-sectional. The percentages of students playing drinking games who experienced each of the 17 problems related to drinking were calculated for both Light-Moderate and Heavy drinkers. Based upon a method developed by Engs (1977), a Quantity/Frequency level of drinking was calculated for each subject who was classified as a drinker. Two drinking categories were assessed. *Light-Moderate Drinker* included those drinking at least once a year but drinking no more than three to four drinks no more than once a week or drinking five or more drinks no more than once a month; *Heavy Drinker* referred to those drinking six or more drinks at any one sitting once a week.

Following a method developed by Lemmens et al. (1988) and adapted by Gliksman, Engs & Smyth (1989), the mean number of drinks consumed on a weekly basis was computed. For these calculations the instrument assessed the usual frequency and quantity of beer, wine and spirits consumed by students. The frequency and quantity response categories were assigned constant values. The values used to calculate mean number of drinks per week as follows. For the usual frequency of drinking by each respondent: every day = 7.0; at least one a week but not daily = 3.5; at least once a month but not weekly = 0.5; more than once a year but not monthly = 0.12; one a year or less = 0.02; never = 0. Values for number of drinks of beer, wine, distilled spirits: 7+ = 7.5; 5-6 = 5.5; 3-4 = 3.5; 1-2 = 1.5; < 1 = 0.5; 0 = 0

To compute the total number of drinks consumed on a weekly basis, a mean score was calculated by multiplying the recoded quantity by the recoded frequency weight for each beverage type. These three numbers were then summed to give the total mean number of drinks consumed per week. Chi-Square, t-test, and ANOVA analysis using the SPSS program on the Indiana University UNIX VAX computer were used for this study.

Demographic variables including gender, race, age, year in school, religion, importance of religion have been shown to have differences in drinking patterns. The percent of students who indicated they had engaged in a drinking game during the past year among various demographic variables for Light – Moderate and Heavy drinkers during the 1990-1991 academic year was also calculated.

RESULTS

Light-Moderate Drinkers

There were 2,801 Light-Moderate drinkers in the sample. Among this group 66.0% had participated in a drinking game during the previous 12 months. For all but two of the problems related to drinking, a significantly ($p < .05$) higher percentage of game players compared to nongame players exhibited the problem (See Table 1).

The two cases for which there was no difference had percentages below 1% of students who had exhibited the behavior for either game or nongame players. Inspection of Table 1 shows that for most of the problems related to drinking, game players had almost twice the percent of problems compared to non-game players.

Heavy Drinkers

There were 1,025 Heavy drinkers in this sample. Of these students, 93.6% had participated in a drinking game during the previous 12 months. There were only five problems related to drinking for which there were significant ($p < .05$) differences between game and non-game players. A higher percentage of game players had exhibited the problem compared to the non-game players.

Demographic characteristics

Light-Moderate drinker game players consumed significantly ($p < .001$) more drinks per week (7.8) compared to the non-game players (3.4). On the other hand, among heavy, or "binge" drinkers, other than for white and underage students, there were no differences in the percent that had played drinking games in the previous year. Among light to moderate drinkers, a significant ($p < .001$) higher proportion of students who played drinking games possessed the following characteristics. These included being white, under-21 year of age, lower school year status, mainstream Protestants, and being enrolled in private schools with over 10,000 students, in small cities in the north central part of the United States. The characteristics of those who were heavy drinkers and played drinking games were white, under 21 years of age, attending private schools with enrolment over 10,000 enrolled students (See Table 2).

CONCLUSION AND RECOMMENDATIONS

It appears that for Light-Moderate drinkers who, for the most part, exhibit few problems related to alcohol consumption, playing a drinking game significantly increased their probability of having drinking-related problems. Over twice the percentage of these drinkers had exhibited most of the alcohol abuse problems if they had played a drinking game

For heavy drinkers, only five behaviors, namely, hangovers, vomiting, missed class because of hangover, gotten into a fight, and damaged property as a consequence of drinking games between drinking and non-drinking game players. It appears that for these heavy drinkers playing a drinking game does not contribute to a higher percentage of students exhibiting most problems. This may be because a high percentage of heavy drinkers, as a whole, are already exhibiting most of the consequences of abusive drinking whether they play a game or not. Among heavy drinkers, there was little difference between game and nongame players in terms of demographic variables.

Because game playing appears to be associated with increased problematic behaviors related to alcohol consumption in particular among whites, males, freshmen attending schools with over 10,000 students in small cities, it is recommended that campus alcohol education programs focus upon dangers of drinking games and pay more attention to this potentially dangerous pastime. "Just say, No" educational efforts, found on many American campuses today as part of the federally mandated "Drug Free Schools and Campuses Act," are unlikely to be effective. For students who may choose to drink, information concerning techniques for more moderate and safer drinking practices might be more useful.

Alternative games and activities which do not involve the rapid consumption of alcohol need to be encouraged. Finally, it is recommended that further research be conducted on the effect of drinking games on other dimensions of student-life including socialization, self-esteem, and grades.

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Table 1. Chi-squared analysis showing percent of students who indicated they had experienced a problem related to drinking and their drinking-game status among both light to moderate (n=2802) and heavy (n=1028) drinkers during 1990-1991 academic year.

Problem	Type of Drinker			
	Light to Moderate		Heavy	
	Yes (n=1924)	No (n=878)	Yes (n=962)	No (n=66)
Hangover	78.7	43.5**	95.5	89.4*
Nausea or vomited	54.1	20.8**	76.9	51.5**
Driven car after several drinks	39.1	22.0	69.3	73.4
Driven car when knew had too much too drink	27.1	12.4**	56.9	60.9
Driven while drinking	27.9	11.0**	58.4	51.6
Come to class after drinking	4.5	1.1**	16.1	12.5
Cut classes because of drinking	7.6	2.2**	23.8	13.6
Missed class because of a hangover	24.8	4.0**	57.5	30.3**
Arrested for DWI	0.5	0.5	3.5	3.1
Criticized by date	10.4	4.0**	24.1	14.1
Trouble with the law	4.5	0.6**	18.8	9.4
Lost a job	0.3	0.0	1.4	1.6
Lower grade	4.3	1.1**	15.2	9.4
Trouble with school administration	1.4	0.2*	6.3	4.7
Gotten into a fight	13.4	3.2**	36.4	9.1**
Thought might have drinking problem	6.9	3.5**	20.4	25.0
Damaged property	7.0	0.9**	25.6	6.1*

*p<.05. **p<.001.

TABLE 2: Chi-square analysis results showing the percent of students who indicated they had engaged in a drinking game during the past year by various demographic variables among Light - Moderate (N=2,801) and among Heavy drinkers (N=1,025) during the 1990-1991 academic year.

Demographic variable	Type of Drinker	
	Light to Moderate	Heavy
GENDER:		
Males	66.6	92.7
Females	69.8	95.0
RACE:		
White	71.2*	94.8*
Non White	48.4	76.9
AGE:		
< 21	78.2*	97.2*
> 21	55.2	87.2
CLASS YEAR:		
Freshmen	74.1*	92.7
Sophomores	70.3	96.5
Juniors	67.2	93.7
Seniors	66.5	91.6
RELIGION:		
RomanCath.	71.6*	94.9
Protestant (Drinking allowed)	80.8	93.4
Protestant (Drinking not allowed)	69.9	89.5
Jewish	60.6	93.3

IMPORTANCE OF RELIGION

Very	67.8	94.0
Not	70.5	93.1

REGION OF COUNTRY:

North East	69.4*	96.1
North Central	73.8	94.2
South	63.9	89.4
West	68.5	93.5

ENROLMENT SIZE:

<10,000	66.3*	92.8+
>10,000	72.9	95.3

COMMUNITY SIZE:

<100,000	72.3*	94.0
100,000-500,000	63.9	94.2
>500,000+	1.8	90.2

SCHOOL TYPE:

Public	68.0*	92.4+
Private	73.0	97.6

TOTAL	66.0	93.6+
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+ p < .05 * p < .001

This study was supported by funding from Indiana University and the State University of New York, Potsdam.